

**VERTICALLY STACKED SPATIAL LIGHT MODULATOR
WITH MULTI-BIT PHASE RESOLUTION**

ABSTRACT

A spatial light modulator having n bits of phase resolution has n stacked layers of deformable electrode pairs supporting a deformable reflective surface, each electrode pair included in upper and lower stacked elongate ribbon conductors extending in respective orthogonal directions, each coincidence of an upper and lower electrode pair defining a pixel within the respective stacked layer, each electrode pair deforming to a maximum deformation in response to an applied write voltage across the pair so as to produce at the reflective layer a phase correction of the corresponding pixel proportional to the corresponding deformation, and wherein the maximum deformation of the pixels in each stacked layer is the same, and wherein the maximum deformation of successive layers decreases in ascending order of the stacked layers.